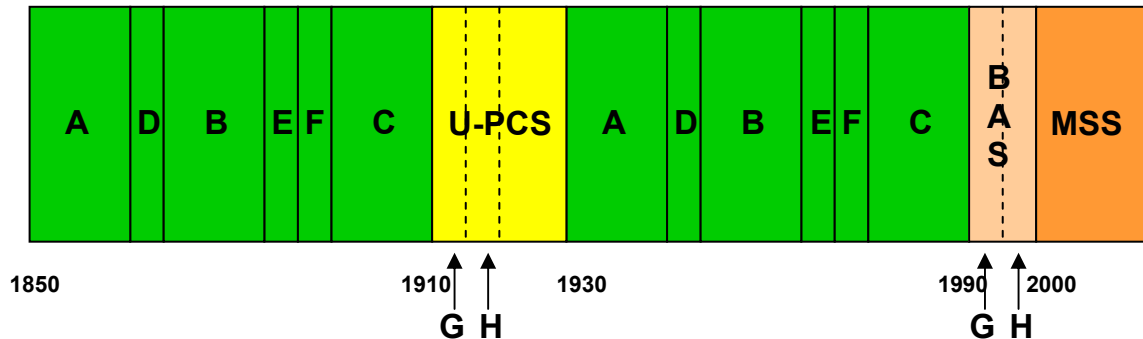


ALLOCATION OF “H BLOCK” SPECTRUM

What’s The Problem?

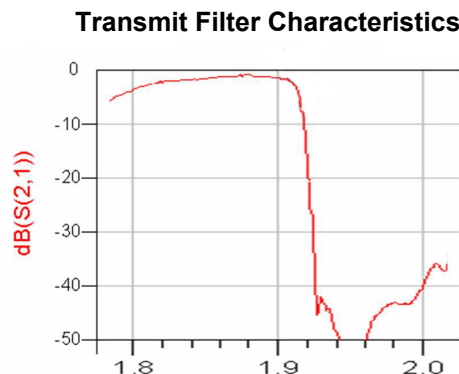
The “H block” (1915-1920/1995-2000 MHz), if used for terrestrial mobile service, is likely to cause significant harmful interference to existing wireless customers because of its close proximity to the PCS mobile receive band (1930-1990 MHz). **The problem could affect more than 100 million existing wireless customers.**



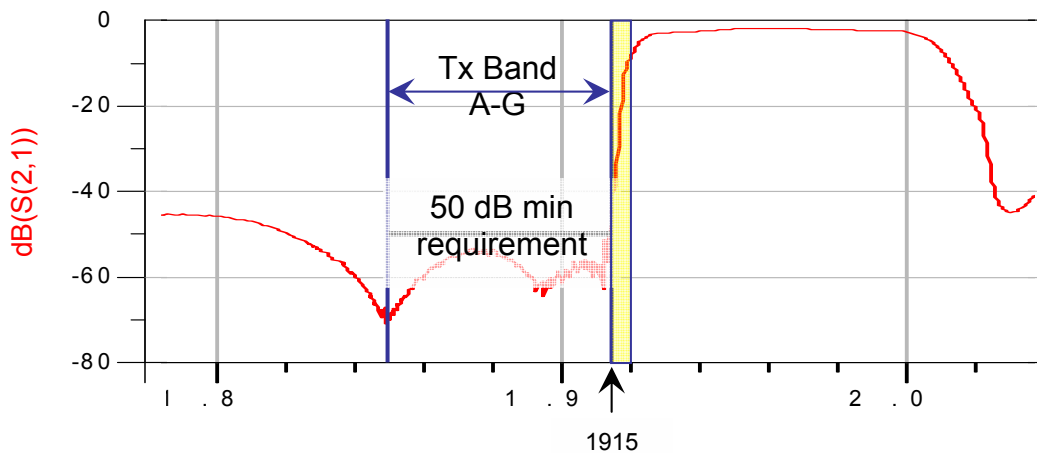
Specifically, the lower H block (1915-1920 MHz), which would be used for mobile transmit, is simply too close to the PCS mobile receive band and existing phones will not be able to effectively filter out the interference. As a result, existing phones may not work whenever they are in close proximity to an H block phone. **Wireless operators have made great strides to improve service quality, and they cannot tell their customers that they might have to stay away from other users to avoid interference.**

There are three types of interference that could occur: (1) excessive out-of-band emissions (OOBE); (2) overload interference; and (3) intermodulation distortion (IMD).

OOBE: All radio transmitters emit energy outside their licensed bands. If not limited to appropriate levels, excessive emissions outside the H block could spill over into the A block (and to a lesser extent D and B) and cause interference to existing mobile phones. The industry has established strict OOBE limits for existing wireless phones to prevent such interference.



Overload: Existing wireless phones were designed to filter out mobile emissions below 1910 MHz, but cannot sufficiently filter out the H block. As a result, if the H block phone is operating at relatively high power and in close proximity to an existing wireless phone, the receiver in the existing phone may fail to operate.



IMD: IMD occurs when two or more signals mix inside a receiver, producing a new signal that causes interference to the receiver. If power levels are sufficiently high and the phones are in close proximity to one another, the receiver could go into an “overload” condition and fail to operate.

Is There A Solution?

These types of interference problems are well understood and the Commission deals with them on a regular basis. For example, these are the same types of interference problems that the Commission recently dealt with in the *800 MHz Proceeding*. These problems can sometimes be addressed via OOB, power, and other technical limits, however, the best method for avoiding such problems is to ensure that there is sufficient spectral separation between incompatible services. This is just what the Commission did in the *800 MHz Proceeding* by separating commercial and public safety uses of the band.

Interference due to excessive OOB can be avoided by adhering to strict OOB limits. The wireless industry has voluntarily established strict OOB standards for PCS equipment (e.g., -76 dBm/MHz for CDMA). If the Commission allows the H block to be used for terrestrial mobile service, it must adopt an OOB limit that is consistent with this standard. Equipment manufacturers have indicated that it is possible to build H block phones that meet this limit with existing filter technology.

Interference due to overload or IMD is more difficult to resolve because it cannot be mitigated by improved filtering on the H block transmitter. Improved filtering in the receiver could, at least theoretically, provide a solution. However, it would require larger, more complex, and more expensive filters. As a result, all existing phones would need to be replaced and these new phones would be larger, more expensive, and with greater power consumption (more battery drain). **Over the years, the trend in the**

wireless industry has been toward smaller, cheaper phones with smaller batteries and longer talk/standby time. Interference from the H block may reverse this trend, making wireless services less attractive to consumers.

Testing Is Required To Determine Interference Potential

The magnitude of the interference problems cannot be known with any degree of certainty until practical testing is performed. The wireless industry (through CTIA) has developed a test plan and is working to complete testing in the near future.

Importantly, the FCC has not conducted any testing of the potential for interference from the H block to existing wireless phones. Yet, it is prepared to make a decision in the near future that the spectrum should be allocated for terrestrial mobile services – leaving until a later date the question of how to avoid harmful interference. Verizon Wireless believes that it is premature to make such an allocation decision now. If testing determines conclusively that there will likely be interference and such interference cannot be effectively mitigated through technical limits, the Commission will have created a huge interference problem that affects millions of wireless customers. **A modest delay in the Commission's allocation decision is necessary to ensure that the testing is completed and that the Commission's actions are based on practical data and a complete and accurate record.**